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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,977	02/13/2007	Wenlin Zhang	0311282US	4160

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EXAMINER	
WOO, KUO-KONG	
ART UNIT	**PAPER NUMBER**
2617	

NOTIFICATION DATE	DELIVERY MODE
12/23/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/573,977	ZHANG, WENLIN	
	Examiner	Art Unit	
	KUO WOO	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/29/2010 has been entered.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on 10/22/2010 has been considered by the examiner.

Response to Amendment

3. This action is response to the Amendment filed on 03/29/2010.

4. Claims 1 and 4 have been amended. Claims 1-6 and 8-29 are currently pending.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claim 4, the phrase (second paragraph) "if not “**so stored**”, **“storing**” the identity information of the WLAN, and **“storing”** the information of mobile communication network… ,“otherwise**, inhibiting storing**". renders the claim indefinite

because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). The steps are not clear after "Otherwise", which information shall be inhibiting storing and under what condition need further defined.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-6,10,12 15-17,19-20 , 22-26 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haverinen et al. (US PGPUB 2004/0029580 A1) in view of Ahmavaara et al. (US PGPUB 2004/0066756 A1).

Regarding claims 1, 10 and 20,Haverinen discloses "Initiating an authentication procedure (¶07, which recite to establish authentication that sending, from a WLAN terminal, a network access identifier (NAI) including a service selection indicator via the WLAN access point) and (¶13, which recites at least one authentication server comprising means for receiving a NAI including said service selection indicator),after the connection between a WLAN UE and a WLAN Access Network (AN) is established";

"Sending a User Identity Request message to said WLAN UE" (¶09, which recite s providing the WLAN terminal with a connection to the service that, is indicated by said selection indicator);

"On receiving said User Identity Request message (¶08, which recites receiving, at an authentication server, the network access identifier including a service selection indicator), deciding network selection information (¶51, which recites the authentication server has received the RADIUS Access-Request packet 606 it checks whether the term)for connection from the WLAN AN to a home network of the UE to be carried based on the information of the WLAN covering the WLAN UE and the WLAN information stored in the WLAN UE, (¶46, which recites complete service selection indicator that is to be included in the NAT or it may be a reference to a service selection indicator stored in the WLAN terminal 200) and returning a message carrying said network selection information to said WLAN AN" (¶44, which recites The WLAN terminal comprises means for adding a service selection indicator to a NAI and a WLAN transceiving means for sending data packets to and receiving data packets from a WLAN access point);

However, Haverinen does not explicitly disclose "the WLAN AN is able to route an authentications request message".

In an analogous art, Ahmavaara discloses "Deciding whether said network selection information (¶10, which recites A WLAN Access Point (AP) broadcasts SSIDs to provide an indication to the UE of available backbone networks (e.g. national PLMNs) accessible via the WLAN access zone (AZ)) in the received message indicates a mobile communication network to which the WLAN AN is able to route an authentication request message, (¶14, which recites WLAN Access network routes the connection establishment to a backbone network (e.g. a visited PLMN) based on the attached NAI

user ID realm part derived from the selected SSID) if yes, forwarding the authentication request message of said WLAN UE to the mobile communication network indicated in the network selection information (¶32, which recites forward message to network that backbone network strips away the concatenated part from the original NAI and forwards the signaling further to at least one additional network to which the UE desires to be connected such as connection from visited PLMN2 to visited PLMN1 and one of the home PLMNs), and otherwise, sending a notification signal to said WLAN UE (Haverinen discloses (¶50 , which recites If the sender is not authorized to connect to the service, then **a message indicating** (sending notification) that the authorization for the requested service has failed is sent to the requesting WLAN terminal) and Haverinen also discloses (¶53, which recite If the authentication is a failure the authentication server sends a failure packet to the WLAN terminal via the WLAN access point.), and directing said WLAN UE to perform subsequent operations".

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use authentication signal and network access identifier (NAI) as disclosed by Haverinen in network access system in combination of Ahmavaara forwarding message to network to improve the selection of various services. (see¶50).

Rationales for arriving at a conclusion of obviousness include:

Applying a know technique to a known device ready for improvement to yield predictable results.

Regarding claim 2, Ahmavaara discloses “pre-configuring a mobile communication network (¶07, which recites the UEs may make automatic network selection based on preferences stored (Pre-configuring) in a GSM subscriber identity module (SIM) or a universal subscriber identity module (USIM) made by the operator or by user) with the highest priority (¶26, which recites If the home network is not available, the UE tries to connect via **preferred backbone networks (** the highest priority)) to be accessed by said WLAN UE”.

Regarding claims 3 and 12, Haverinen discloses “obtaining the identity information of the current WLAN, matching the obtained WLAN identity information and the WLAN identity information stored in said WLAN UE (¶12, which recites WLAN terminal comprising means for including a service selection indicator in a Network Access Identifier (NAI) and means for sending said NAI including said service selection indicator via the WLAN access point), and if the identity information of the current WLAN and the corresponding network selection information is stored in said WLAN UE, regarding the network selection information corresponding to the identity information of current WLAN as the network selection information to be carried” (¶24, which recites if the ID is matching that means for initiating a connection between a WLAN terminal and a service indicated by said service selection indicator);

“Otherwise, said pre-configured mobile communication network with the highest priority will be carried as the network selection information” Ahmavaara discloses (¶07, which recites the UEs may make automatic network selection based on preferences stored (Pre-configuring) in a GSM subscriber identity module (SIM) or a universal

subscriber identity module (USIM) made by the operator or by user) with the highest priority (¶26, which recites If the home network is not available, the UE tries to connect via **preferred backbone networks (** the highest priority)) to be accessed by said WLAN UE".

Regarding claim 4, Haverinen discloses "judging whether the identity information of the current WLAN is stored in said WLAN UE when the WLAN UE has successfully accessed the mobile communication network indicated in the network selection information, (¶54, which recites to generate a log (access information and list of user) of every user and the services the user has utilized. An indicator of the selected service and the identity of the user are sent to the access server by means of the NAI and are thus easily registered in the log. Further, the identity of the user/terminal may be confirmed by means of an authentication process, such process may utilize a signaling scheme generating packets corresponding to the packets in FIG. 6) and Ahmavaara also discloses (¶78, which recites the identification of the roaming network may be transmitted from the wireless access network to the UE for storage and may be in response to a solicitation by the user equipment of an identification the roaming network)and if not so stored, storing the identity information of the WLAN, and storing the information of the mobile communication network being successfully accessed as the network selecting information corresponding to the identity information of the WLAN";

"Otherwise, inhibiting storing" (¶51, which recites The WLAN access point then sends a RADIUS Access-Request packet 606, which includes the NAI including the service selector indicator, to the authentication server. If the user/terminal is not

authorized, then the authentication server refuses the connection attempt) wherein NAI information won't be stored.

Regarding claim 5, Ahmavaara discloses "wherein, said pre-configured mobile communication network (¶07, which recites the UEs may make automatic network selection based on preferences stored (Pre-configuring) in a GSM subscriber identity module (SIM) or a universal subscriber identity module (USIM) made by the operator or by user) with the highest priority(¶26, which recites If the home network is not available, the UE tries to connect via **preferred backbone networks (** the highest priority) is the home network"(¶90, which recites the UE may always use its home network NAI as its user identity independently of the backbone network selection).

Regarding claim 6, Ahmavaara discloses "said WLAN identity information refers to Access Point Identity (APID) or Service Set Identity (SSID)" (¶90, which recites WLAN UE indicates the selected SSID when connecting to the access network.);

"Access Point Identity (APID) is Media Access Control (MAC) address of the Access Point (AP)" (¶14, which recites SSID include network address that The WLAN Access network routes the connection establishment to a backbone network (e.g. a visited PLMN) based on the attached NAI user ID realm part derived from the selected SSID).

Regarding claims 15 and 28-29, Harverinen-580 discloses "setting a threshold for the amount of the information (¶54, which recites amount information can be stored or transferred that a billable feature is measured and registered in the log, such billable feature may be a **time interval during which the service has been used**, an amount

of **data transferred to, from or both to and from the WLAN terminal**, the number of times the service has been used, etc. The log may then be used by the service provider for billing the user.) permitted to be stored in the WLAN UE, judging whether the identity information of the current WLAN and its corresponding network selection information exceeds said threshold of the amount of information permitted to be stored, if the amount is exceeded, deleting old or selected information, and storing the identity information of the WLAN and its corresponding network selection information;

"otherwise, storing the identity information (¶46, which recites be the complete service selection indicator that is to be included in the NAT or it may be a reference to a service selection indicator stored in the WLAN terminal 200) of the WLAN and its corresponding network selection information".

Regarding claims 16, Harverinen-580 discloses "wherein said network selection information is contained in the Network Access Identity (NAI)" (¶44, which recites The WLAN terminal 16 comprises means 24 for adding a service selection indicator to a NAI and a WLAN transceiving means 26 for sending data packets to and receiving data packets from a WLAN access point).

Regarding claims 17 and 19; Harverinen-580 discloses "Re-selecting a mobile communication network (¶05, which recites to select various services in the present invention to provide an improved WLAN system facilitating selection of various services) and obtaining the network information corresponding to the selected mobile communication network according to the notification signal";

"Sending a message carrying the selection information of the new network to the WLAN AN" (¶07, which recites sending, from a WLAN terminal, a network access identifier (NAI) including a service selection indicator via the WLAN access point).

Claim 22 is drawn to the method used by the corresponding method claim 20 and are rejected for the same reasons.

Regarding claims 23 and 24, Ahmavaara-756 discloses (¶07, which recites The UEs may make automatic network selection based on preferences stored in a GSM subscriber identity module (SIM) or a universal subscriber identity module (USIM) made by the operator or by user) and Harverinen-580 discloses "automatically selecting mobile communication network information sent by the network according to parameters set in advance"(¶46, which recite selection in advance according to stored information in WLAN UE that be the complete service selection indicator that is to be included in the NAT or it may be a reference to a service selection indicator stored in the WLAN terminal 200).

Regarding claim 25, Haverinen-741 discloses "wherein, said WLAN interworking network refers to 3GPP-WLAN interworking network" (Abstract, which recites the 3GPP-WLAN interworking network that a system for transferring accounting information, a method in a terminal, a terminal, a method in an Extensible Authentication Protocol (EAP) service authorization server, an EAP service authorization server, a computer program, an Extensible Authentication Protocol response (EAP-response) packet, wherein the method)

Regarding claim 26, Ahmavaara-756 discloses "mobile communication network refers to a public land mobile network (PLMN)" (Abstract, which recites the method includes storing the identification (SSID) of the at least one other network (visited PLMNs 1-3 and home PLMNs 4 and 5) in the user equipment.

8. Claims 8-9, 11, 13-14 ,18 ,21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haverinen herein after referred as Haverinen-580 in view of Ahmavaara herein after referred as Ahmavaara-756 as applied to claims 1-6 above and further in view of Haverinen et al. (US PGPUB 2004/006471 A1) herein after referred as Haverinen-471.

Regarding claims 8-9, 11, 13-14 and 18 as applied to claim 4, Haverinen-580 discloses storing the WLAN identity information and its corresponding network selection information.

However, Haverinen-580 does not explicitly discloses “setting a valid survival time for the stored network selection information so as to make the stored contents invalid when the survival time is exceeded”.

If the survival timer is exceeded, Ahmavaara-756 discloses (¶07, which recites the UEs may make automatic network selection based on preferences stored (Pre-configuring) in a GSM subscriber identity module (SIM) or a universal subscriber identity module (USIM) made by the operator or by user) with the highest priority (¶26, which recites If the home network is not available, the UE tries to connect via **preferred backbone networks (**the highest priority)) to be accessed by said WLAN UE”.

In an analogous art, Haverinen-741 discloses (¶91, which recites the information can be transmitted that when the EAP-request is sent, a timer is started, step 508. In step 510 the value of the timer is compared with a predetermined time limit, $t_{.limit.}$ If the value of the timer does not exceed $t_{.limit}$ then the process continues by checking whether an EAP-response has been received from the terminal. If the value of the timer exceed the value of $t_{.limit.}$ then no EAP-response has been received within the time limit and the process continues to step 512 and ends the access to the service that the accounting information relates to).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use authentication signal and network access identifier (NAI) as disclosed by Haverinen-580 in network access system and Ahmavaara teaches alternative service provider when timer is exceeded (fail the authentication process) in combination of Haverinen-741 set timer value to limit the stored contents invalid if time is exceeded (see¶ 91).

Rationales for arriving at a conclusion of obviousness include:

Applying a know technique to a known device ready for improvement to yield predictable results.

Claim 21 is drawn to the method used by the corresponding method claim 18 and are rejected for the same reasons.

Claim 27 is drawn to the method used by the corresponding method claim 14 and are rejected for the same reasons.

Remarks

9. Applicant argues 3GPP and last prior art fail to cover claims all limitation. New prior art Haverinen-580 provides network selection indicator as network authentication process and Haveerinen-741 provides timer and time limitation for data transfer and Ahmavaara-756 provide network SSID and PLMN and home network for WLAN UE and alternative selection to provide pre-configuring network with prefer backbone network service.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KUO WOO whose telephone number is (571)270-7266. The examiner can normally be reached on 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KUO WOO/
Examiner, Art Unit 2617

/HUY PHAN/
Primary Examiner, Art Unit 2617